The Chicago Center for Cosmochemistry

Michael Savina[a], Michael Pellin[a], Igor Veryovkin[a], Wallis Calaway[a], Andrew Davis[b], Meenakshi Wadhwa[c]
[a] Materials Science Division, Argonne National Laboratory
[b] The University of Chicago, [c] The Field Museum

The Chicago Center for Cosmochemistry is dedicated to promoting education and research on the origins of elements and isotopes in the universe and the chemical composition of matter in the solar system.

Stardust was first isolated from meteorites at the University of Chicago.

The multicollector ICP-source mass spectrometer in the Isotope Geochemistry Laboratory at the Field Museum is used to study early solar system processes such as planet formation.

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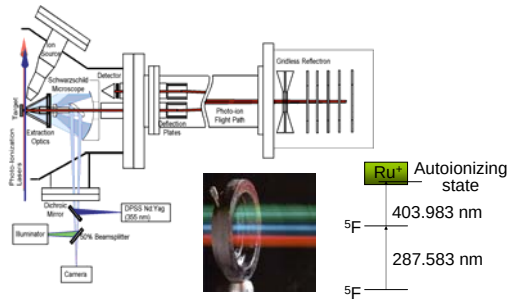
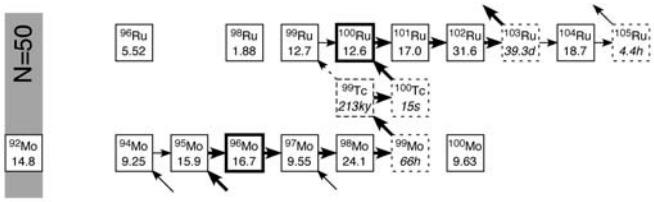


Resonant Ionization Mass Spectrometry on the CHARISMA and SARISA instruments at Argonne National Laboratory provides unique insight into the makeup of extraterrestrial materials.



Stardust isotope data coupled with stellar modeling and nucleosynthesis theory provides an understanding of the origins of the elements.

A laminar flow bench and other clean facilities ensure that extraterrestrial materials are free of earthly contamination.

Major projects:

- Measurement of stardust grains coupled with nucleosynthesis theory to probe stellar processes and the origin of the elements
- Isotopic and chemical studies of meteorites and rocks to probe the early history of the solar system, planet formation and early earth history
- Studies of the Sun, planets, asteroids and comets through current and future sample return missions and spaceflight instruments

"Extinct Technetium in Silicon Carbide Stardust Grains: Implications for Stellar Nucleosynthesis," Savina, M., Davis, A. M., Tripa, C. E., Pellin, M., Lewis, R. S., Amari, S. and Gallino, R., Science, 303, 649-652, 2004

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